

CubeSats have one major shortcoming, but not for long

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by Bryce Tappan

Over the past decade and a half, satellites the size of a toaster have opened up new possibilities for using space. Called CubeSats, these diminutive spacecraft offer several appealing virtues for scientific and national security missions and one major handicap—but a fix is on the way.

Built to a standard size of roughly 10 centimeters on each side, the featherweight CubeSats can be quickly developed and inexpensively launched, because they piggyback on rockets hauling bigger payloads into low Earth orbit. And they are adaptable: While orbiting, they can be reprogrammed from the ground. Traditional satellites can't.

All these traits add up to a low risk-to-reward ratio, which makes space accessible to researchers, students, and businesses that otherwise couldn't afford placing their device or experiment in orbit. And because CubeSats are agile and responsive to an immediate operational need as a situation evolves, they lend themselves naturally to national security missions. That's why Los Alamos National Laboratory got involved in the technology as part of its national security science programs.

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